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MARCH 5.

The President, Dr. JOS. LEIDY, in the chair.

Seventeen persons present.

Note on Gonyleptes and Solpuga.—DR. LEIDY exhibited a curious spider, presented by Dr. W. H. Jones, who obtained it in Rimac valley, in the vicinity of Lima, Peru. It is a large form related to our Daddy-long-legs, *Phalangium*, and is the *Gonyleptes curvipes*. The species was originally described from Chili. It is represented in Fig. 176, in Kingsley's Standard Natural History.

Another specimen exhibited, was presented by Mr. Joseph Willcox, who collected it in Florida. It is a *Solpuga*, differing from ordinary spiders in having both thorax and abdomen segmented. The species, according to Putnam (Proc. Davenport Acad. 1883, 264), was previously collected in the same locality. It agrees in size, 20 mm., and other characters, with the *Galeodes cubæ*, of Cuba, described by Lucas (Hist. de l'Isle de Cuba, Atlas, Tab. v., fig. 6.)

Mazapilite, a new mineral species.—PROF. GEORGE A. KÖNIG recalled to the Academy, that he had given a preliminary notice on July 3, 1888, of a new mineral of which he had not yet made a quantitative analysis or measured the angles accurately, as he was then on the point of leaving for his summer vacation. The mineral was then described as an *arsenite* of iron and calcium. The full examination showed this description to be erroneous. When first examined the mineral yielded in the closed tube a sublimate of $As^2 O^3$ and water. This sublimate was not obtained in repeated later trials. The mineral is an *arseniate* of calcium and iron.

Mazapilite occurs only in well-developed crystals, which are imbedded in white calcite and aragonite. The crystals vary in length from $\frac{1}{8}$ to $\frac{1}{4}$ inch, and $\frac{1}{16}$ to $\frac{1}{8}$ inch in breadth. They are all developed at both ends and fall easily from the matrix, in which they leave an ochre-yellow impression. Minute warty particles of a grayish color were observed in some of these cavities.

The crystals are black, deep brown-red on the fracture. They are slightly translucent at the thinnest edges with blood-red color.

The streak is ochre-yellow. The luster is submetallic.

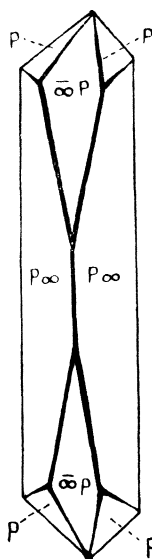
The crystals possess the habitus of the combination represented in the cut, without exception.

The four faces designated (∞ P) are found to lie in *one zone* and therefore the symmetry of the combination is *orthorhombic*.

The following angles were measured:

P : P = $115^\circ 10'$ (over ∞ P.)

P : P = $100^\circ 35'$ (over brachi-axis.)



$$\infty P : \infty P = 44^\circ 56' \text{ (over the pole.)}$$

$$\infty P : P\infty = 60^\circ 10' = 119^\circ 50'$$

The angle of $115^\circ 10'$ is uncertain within $5'$.

One of the faces of P measured, was very small and gave a dim reflection. All the other faces reflect satisfactorily, even excellently. On one very small crystal, the faces of a brachidome were observed, but could not be measured. No cleavage has been observed and therefore the longest dimension was chosen for the main axis, in the position represented by the cut.

The parameters of the fundamental pyramid are:

$$a : b : c = 0.73104 : 1 : 1.1640.$$

The optical properties could not be studied by reason of the failure to obtain a thin section which would transmit any light; the color is so intense.

The specific gravity was determined with 1.2475 grs. of pure crystals and found = 3.582 B. B.

When the powder is heated in closed tube it yields much water without change of the ochre-yellow color. Only at a red heat the color changes to a light brick-red. In the oxydizing flame the mineral fuses to a black scoria which is magnetic. On charcoal a light volatile sublimate is produced and the garlic odor

of arsenic is developed.

With borax only the reaction for iron is obtained. The mineral dissolves easily in hot concentrated hydrochloric acid without effervescence. The solution does not precipitate gold chloride (absent FeO and As_2O_3 .)

In the course of the analysis, care was taken to obtain complete precipitation of arsenic. Hydrogen sulphide was passed through the solution three times, allowing the solution to stand 24 hours after each separation. Only upon saturating the fourth time, no precipitation resulted. $As_2S_3 + S$ was weighed; a portion oxydized and precipitated by $MgCl_2$. After filtering (NH_4^+), ^{21}O was removed by heat, HCl added and H_2S passed through the solution. A small quantity of Sb_2S_3 was obtained. After igniting the ferric hydrate, it was redissolved and by molybdic solution a slight yellow precipitate produced. This proved to be due to phosphorus. Water was determined in a separate portion.

0.5520 of the substance gave.

0.3430 $As_2S_3 + S$.

0.3125 $As_2S_3 + S$ gave 0.2960 $Mg_2As_2O_7$.

0.1685 Fe_2O_3 .

0.0820 CaO

0.3050 substance lost by successive heating.

0.0020 at $130^\circ C$.

.0130 at $279^\circ C$.

0. 0159 up to 360° C.

. 0240 up to beginning red-heat; the color of the powder remains unchanged up to this point.

. 0290 the powder becomes partly red.

0. 0300 at full red-heat. The powder is light brick-red.

These numbers furnished:

$$\text{As}^2 \text{O}^5 = 43.60$$

$$\text{S6}^2 \text{O}^5 = 0.25$$

$$\text{P}^2 \text{O}^5 = 0.14$$

$$\text{Fe}^2 \text{O}^3 = 30.53$$

$$\text{Ca O} = 14.82$$

$$\text{H}^2 \text{O} = 9.83$$

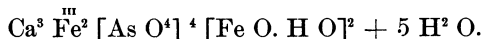
$$99.17$$

From this follows the ratio:

$$\text{As}^2 \text{O}^5 : \text{Fe}^2 \text{O}^3 : \text{Ca O} : \text{H}^2 \text{O}.$$

$$\text{I} : 1.09 : 1.49 : 3.09.$$

or very nearly



In view of the fact that the color remains unchanged up to red heat and then turns brick-red, the assumption of one molecule of ferric hydrate is well justified as is likewise the consideration of the remaining water as not being constitutional.

If we compare this composition with that of Arseniosiderite (Rammelsberg, Mineralchemie, Aufl. II, p. 347), we find a close affinity between the two substances. It may hereafter be shown that the composition of the doubtful mineral from Romanèche is identical with the Mazapilite, but for the present it seems proper to distinguish the latter as a perfectly well-established species.

The mineral Mazapilite occurs at the Mine Jesus Maria, District of Mazapil, Zacatecas, Mex. It was brought thence by Dr. A. E. Foote, to whose kindness the author is indebted for the material.

MARCH 12.

The President, Dr. JOS. LEIDY, in the chair.

Eighteen persons present.

A paper entitled "The Boring Sponge, Cliona", by Jos. Leidy, M. D., was presented for publication.

The death of Isaiah V. Williamson, a member, was announced.